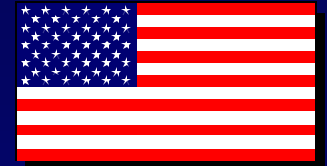


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## Dredging and Dredged Material Management in the New York & New Jersey Harbor Estuary



### Background, Need and Alternatives



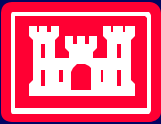
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# Outline

- Significance of the NY & NJ Harbor Estuary
- HARS Synopsis
- Corps' Navigation Program
  - ◆ Deepening (New Work)
  - ◆ Maintenance
- Corps' Regulatory Program
- Future Dredged Material Volume Projections
- Other Available Alternatives and Costs
- The Need for the HARS







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## Geographic Area showing the Main Navigation Channels

- Naturally shallow Estuary
- Channels Federalized late 19<sup>th</sup> Century
- Ocean disposal predominantly used in the Harbor Estuary from early 20<sup>th</sup> Century
- Over 250 miles of channels in the Harbor Estuary today
- Current Federal channel depths range from 8 to 47 feet
- Several Federal channels are being or are planned to be deepened to 50 feet and more in some locations





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## Economic Significance of the New York & New Jersey Harbor Estuary

- 3rd largest container port in the United States
- Largest port on North America's East Coast
- Largest petroleum product port in the U.S.
- Supports 180,000 + jobs
- \$ 6.6 billion in annual salaries and wages
- \$ 19.6 billion in annual sales
- Serves 17 million people locally
- Serves 37 million people within 250 miles



- Serves 80 million people overnight
- Major vehicle port - 300,000 imports, 100,000 exports annually
- Major passenger ship terminal: 400,000 passengers annually

# Historic Area Remediation Site & New York Bight Apex

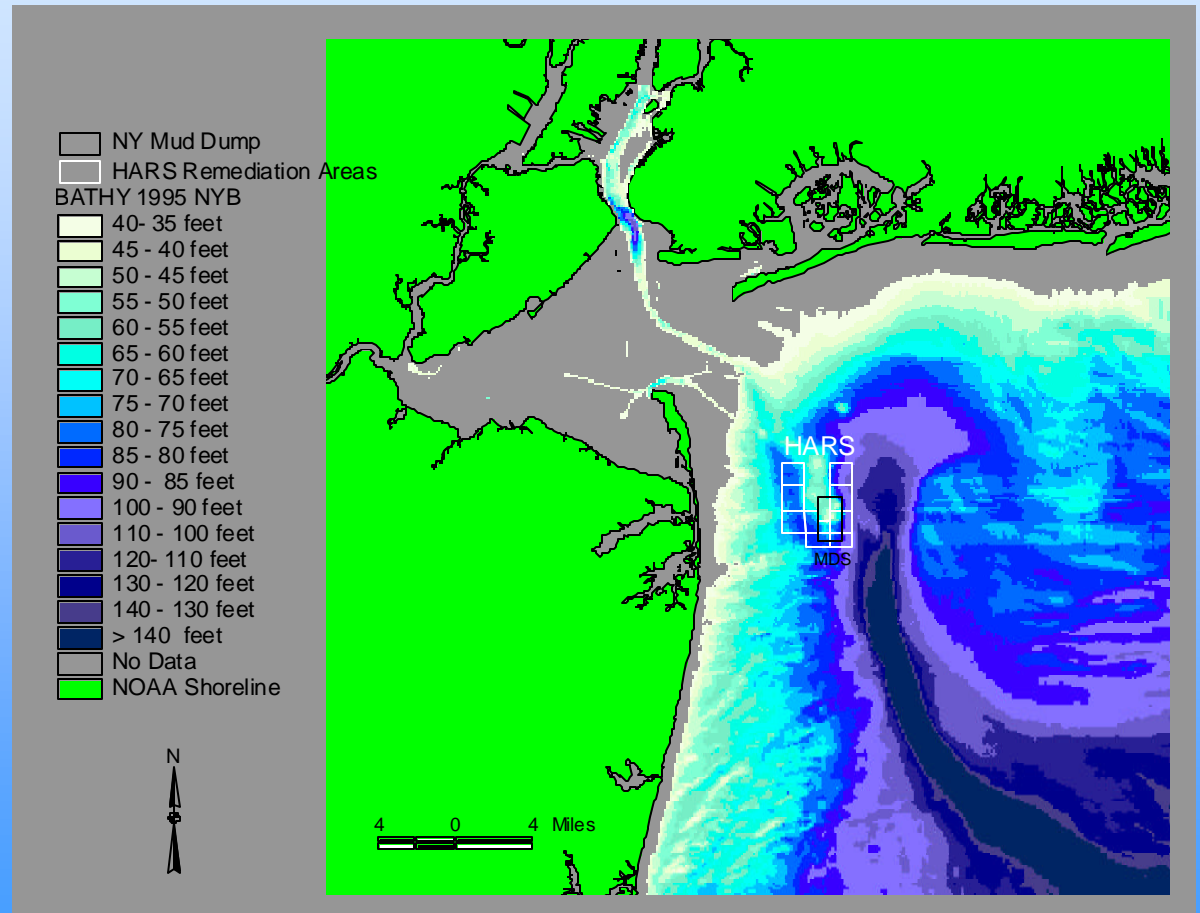
*A unique site of concern in a highly dynamic, developed and utilized region*

- **DESCRIPTION:**

- ◆ HARS designated in September 1997.
- ◆ The HARS covers a 15.7 sq. nautical mile area.
- ◆ It requires a *minimum* of 40.6 million cubic yards (MCY) to remediate with a one-meter cap of dredged material.

- **STATUS:**

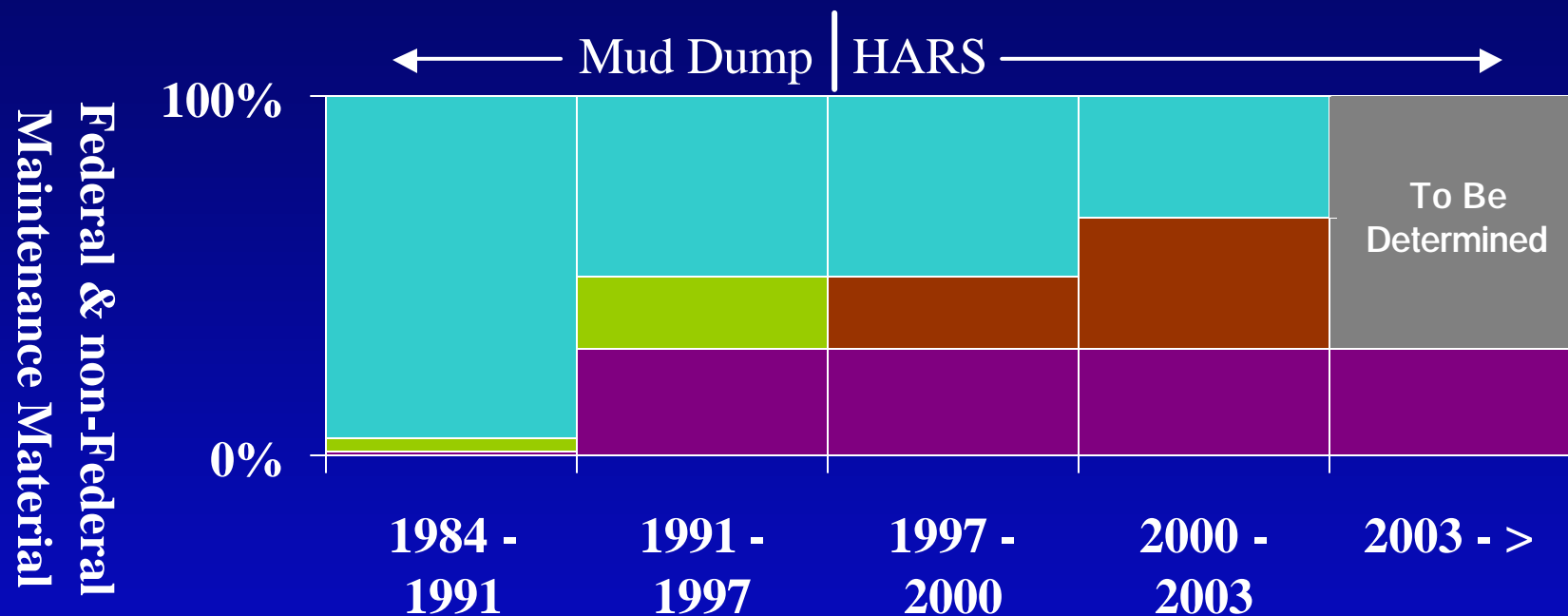
- ◆ EPA and Corps issued MOA in September 2000.
- ◆ To date, over 8.6 MCY of dredged material has been placed at the HARS.





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## General Trend in Ocean Placement Standards in the Port of NY & NJ



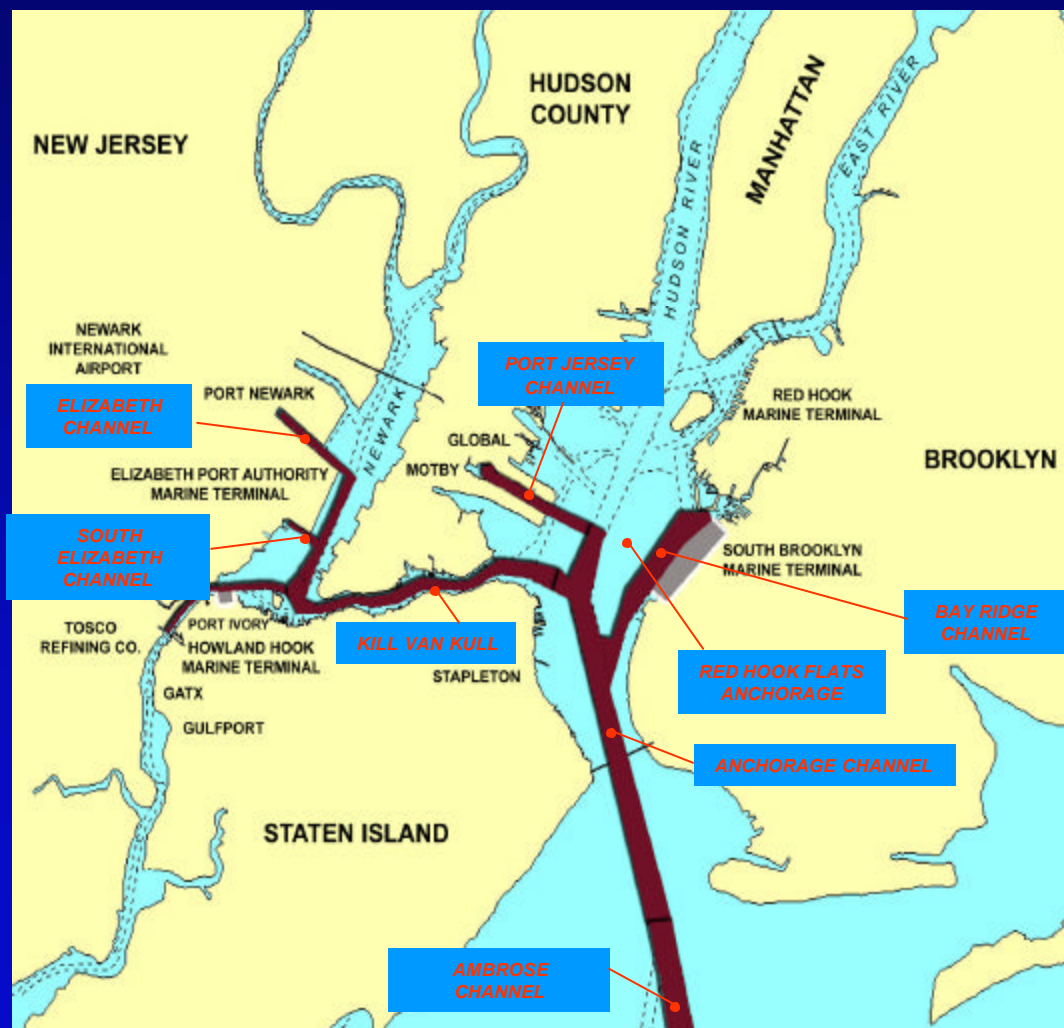
- Acceptable for Mud Dump / HARS
- Acceptable for Mud Dump Disposal with Capping
- Not Acceptable for HARS (fails bioaccumulation tests)
- Not Acceptable for Ocean Placement (fails toxicity tests)



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# Corps Navigation Program – Deepening Projects

- **Kill Van Kull & Newark Bay - Phase II**
  - ◆ Deepening from 40' to 45'
  - ◆ Construction underway
  - ◆ HARS suitable material from project construction: 5.5 MCY
  - ◆ Project Cost: \$801 million
- **Port Jersey Channel**
  - ◆ Deepening from 38' to 41'
  - ◆ Construction start scheduled this year
  - ◆ Project Cost: \$118 million
- **Arthur Kill Channel**
  - ◆ Deepening from 35' to 40'/41'
  - ◆ Construction start scheduled this year
  - ◆ Project Cost: \$392 million
- **NY & NJ Harbor Navigation Project**
  - ◆ Deepening highlighted channels to 50'
  - ◆ Construction scheduled to start 2003 and require years to complete
  - ◆ Estimated HARS suitable material from project construction: 34.9 MCY
  - ◆ Project Cost: \$ 2.0 billion
- **Total cost: \$3.3 billion**



As of 10 January 2002





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## Corps Navigation Program – Maintenance Dredging

- Over thirty existing Federal channels in the Harbor Estuary, nearly all needing periodic maintenance.
- Federal maintenance volume projections in the Port range from 1 to over 3 million cubic yards of dredged material, *each year*.
- Given existing funding constraints and the current cost of available placement sites, maintenance dredging is often backlogged.





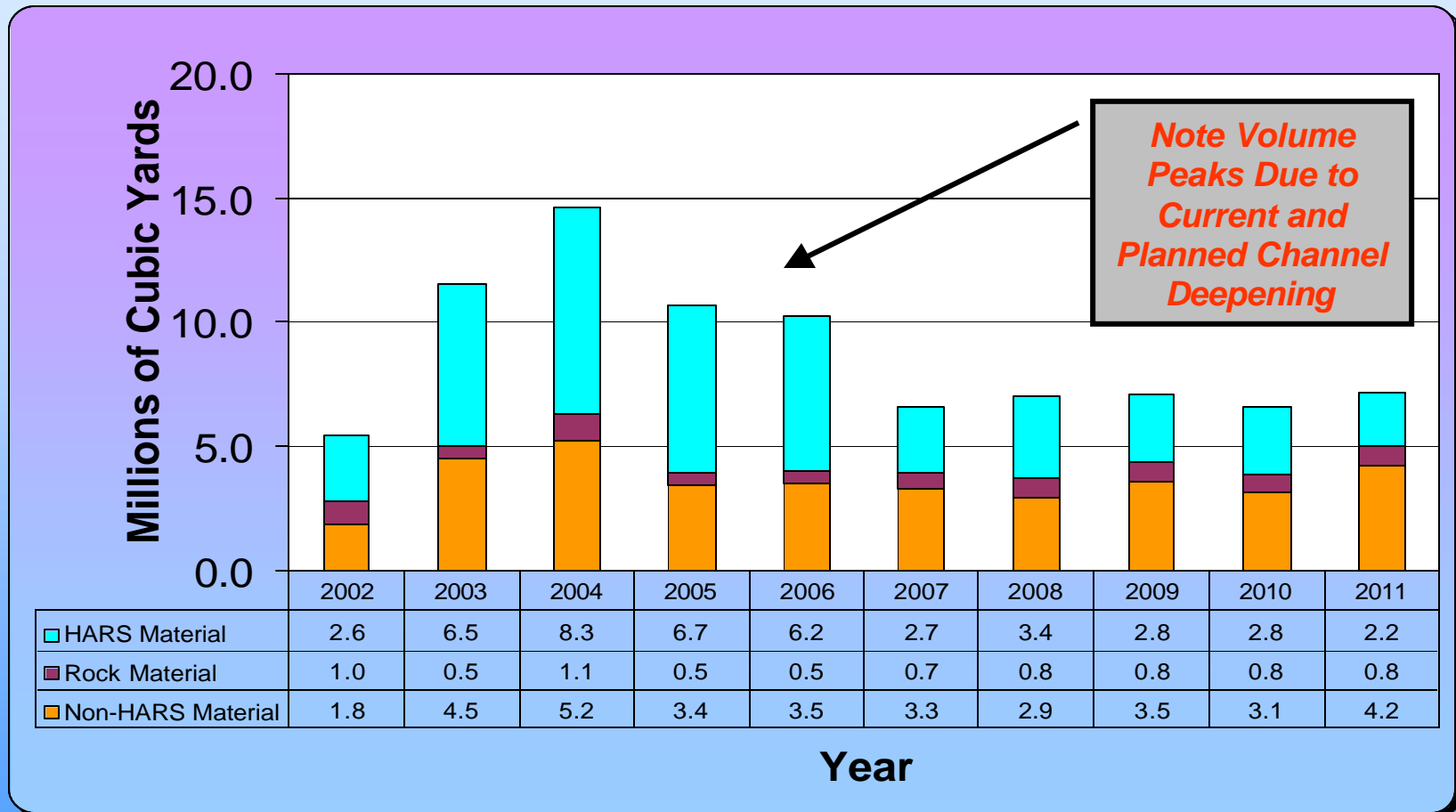


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## Corps Regulatory Program

- Ocean Disposal Authority derives from Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 CFR 324.2)
- Permits to use HARS Issued by Corps contingent on EPA approval
- Permits undergo Public Interest Review
- Typical Applicants in the Port range from the Port Authority of NY & NJ to private marina owners
- Permit Applications for using the HARS range widely year to year, presently about a half dozen per year
- Notable permit dredging:
  - ◆ Passenger Ship Terminal – dredged 400,000 CY to 500,000 CY *each year*
  - ◆ Ferry Terminals – expanded need and use since September 11

# Future Dredging Volume Projections\*



**\* Includes anticipated Corps deepening & maintenance dredging and permit dredging**



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## Where can we place the material once it's dredged? What other alternatives are there?





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# Upland, but where?

- Highly urbanized region – limited areas for dredged material placement
- With regional goal of using dredged material beneficially, whenever feasible, upland remediation preferred option over disposal.
- Other options are possible and available
  - Some are restricted to certain types of material (e.g., only sand for beach nourishment)
  - Some are undergoing further evaluation (e.g., decontamination technologies)







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# Upland Remediation – Landfills, Brownfields & Coal Mines

## Capping Landfills & Brownfields in Port Region



- Processing typically required for geophysical site requirements & to reduce leaching
- Limited number of sites in Harbor Estuary region
- Large capacity sites are far from Harbor Estuary and are under evaluation
- Added Processing, Transport & Handling Costs

## Pennsylvania Coal Mine Reclamation



*Before*



*After*

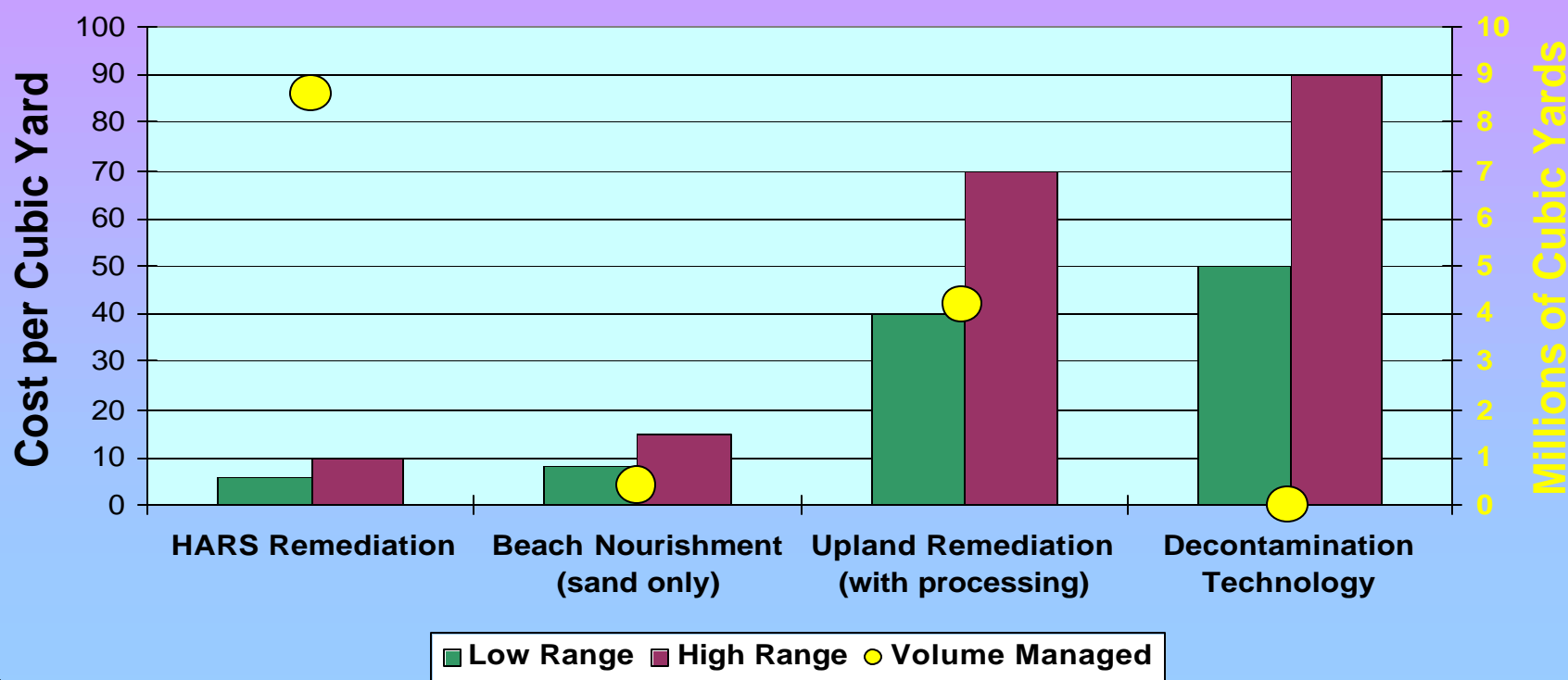
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# Comparison of Alternative Cost and Use

Approximate Maintenance Material Cost & Volume  
Managed (deepening & maintenance) since September  
1997





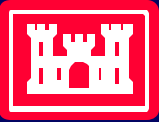
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# Key HARS Factors

- Corps wants to continue to fully remediate the HARS.
- Remediation material is the right balance of environmental protection for the ocean & economic protection of the Harbor Estuary.
- Too much protection of either the environment or the economy jeopardizes the equitable balance that now exists in the Harbor Estuary.







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# Questions?



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